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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/700,221	11/03/2003	William T. Bell	Titan 001.02	3101

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EXAMINER

ELDRED, JOHN W

ART UNIT PAPER NUMBER

3644

DATE MAILED: 11/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/700,221

Applicant(s)

BELL, WILLIAM T.

Examiner

J. Woodrow Eldred

Art Unit

3644

*NW*

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 1-14 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 23 and 24 is/are allowed.
- 6) ☒ Claim(s) 15-22 and 25-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-30 are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. ____.  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>11132003</u> .  | 6) <input type="checkbox"/> Other: ____.                                    |

### DETAILED ACTION

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-14, drawn to a shaped charge booster assembly, classified in class 102, subclass 306.
  - II. Claims 15-30, drawn to a shaped charge tubing cutter, classified in class 102, subclass 307.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions II and I are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because details of the booster are not claimed with the tubing cutter. The subcombination has separate utility such as being used to initiate a shaped charge that is not part of a tubing cutter.

3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

4. During a telephone conversation with Allen Marcontell on 11-23-04 a provisional election was made without traverse to prosecute the invention of Group II, claims 15-30. Affirmation of this election must be made by applicant in replying to this Office action. Claims 1-15 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 3644

6. Claims 15-21, 27, 29, and 30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 15, 16, and 19-21, the phrase “a mixture that includes powdered tungsten, copper, and/or lead” is alternative and indefinite. It is not clear which of the possible combinations are claimed. For example, can the mixture consist of just one of any of the elements, or just lead? Must the combination include tungsten and copper, but allow lead as an option?

In claims 17, 18, 27, 29, and 30, the term “walls” has no antecedent basis and is unclear since it appears that the claimed cylindrical housing will only have a single wall.

In claim 19, “wherein a copper and lead constituency of said mixture comprises about 80% copper” is vague and indefinite, since it is not clear if the entire mixture is copper and lead, or if tungsten is also present and 80% of the non-tungsten portion is copper. In claim 20, an exactly analogous indefiniteness is present concerning the percent of lead present.

In claim 21, the term “80+” is vague and indefinite. Does this mean “80 or greater” or “greater than 80”?

In claim 30, line 9, “transverse” is vague and indefinite since it is not clear to what the walls are transverse.

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 25, 26, and 29 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Engel et al (5,046,563).

See especially Figure 1 and column 3, lines 38-53.

Art Unit: 3644

9. Claims 25, 26, 27, and 29 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Christopher (3,053,182).

See especially Figure 1; column 3, lines 1-4; and column 3, line 67-column 4, line 4.

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 17, 18, 22, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Engel et al in view of Renfro et al (5,392,684).

Engel et al disclose a tubing cutter comprising two frustro-conical explosives joined together with a center opening, a metal liner on the conical faces, an booster charge in the center opening, end plates adjacent the explosives, a housing, a spring centralizer, and a channel to weaken the housing in the area of the explosive jet stream. Engel et al fail to show having two channels to weaken the housing or to place the channel on the outside of the housing. Renfro et al teach that it is well known to place two channels in a housing in order to weaken the housing so that an explosion will fracture the housing in the desired position and that such channels can be on the outside of the housing. See especially Figures 2-5. Motivation to combine is the mere substitution of known number and placement of channels in order to perform the same function of fracturing a housing in a desired manner. To employ the teachings of Renfro et al on the tubing cutter of Engel et al and adjust the means of weakening the housing and have two channels and, optionally, place them on the outside of the housing is considered to have been obvious to one having ordinary skill in the art.

12. Claims 15, 16, and 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Engel et al in view of Reese et al (6,634,300).

Art Unit: 3644

Engel et al is applied as above, noting that Engel et al fail to disclose the composition of the metal lining on the conical faces of the explosive. Reese et al disclose all claimed compositions for the metal liner on the conical face of a shaped charge explosive. See especially column 5, lines 6-33. Motivation to combine is the mere substitution of known metal liners for the unspecified liner of Engel et al. To employ the teachings of Reese et al and have a metal liner with the claimed composition is considered to have been obvious to one having ordinary skill in the art.

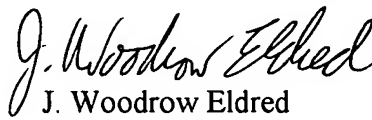
13. Claims 23 and 24 are allowed.

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Glenn et al, Welch et al, and Owen are cited as being of interest since they disclose shaped charges.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. Woodrow Eldred whose telephone number is 703-306-4151. The examiner can normally be reached on Monday to Thursday, from 8:00 a.m. to 5:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Teri Luu can be reached on 703-305-7421. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
J. Woodrow Eldred  
Primary Examiner  
Art Unit 3644